This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-51 (canceled).

52. (Previously presented): A safety vacuum cleaner including a measuring system for residual dust monitoring, comprising:

a housing including an air passage having an inlet, an outlet, and a flow cross section;

a turbine at least partially disposed within said air passage, said turbine rotatable to move an air stream through said air passage, the air stream containing dust particles, said turbine electrically grounded such that electrical charges associated with the particles are removed upon contact of the particles with said turbine;

a filter element disposed within said air passage; and

at least one electrode disposed within said air passage downstream of said turbine, said electrode shaped as a grid covering said flow cross section of said air passage, said electrode conducting an electrical current responsive to contact with uncharged particles and emitting a measurement signal indicative of the amount of the particles in the air stream.

53. (Previously presented): The vacuum cleaner of Claim 52, wherein said outlet comprises an outlet tube having an open end portion, said electrode positioned within said open end portion.

54. (Previously presented): The vacuum cleaner of Claim 53, wherein said electrode is mounted within said air passage proximate said turbine.

55. (Previously presented): The vacuum cleaner of Claim 53, wherein said turbine includes at least one turbine blade disposed within a turbine housing, said electrode mounted within said turbine housing proximate said at least one turbine blade.

56. (Previously presented): The vacuum cleaner of Claim 52, wherein all portions of said air passage, besides said electrode, are one of directly and artificially grounded.

57. (Previously presented): The vacuum cleaner of Claim 52, further comprising a differential amplifier and a processing unit, said differential amplifier amplifying said measurement signal and conducting said measurement signal to said processing unit.

58. (Previously presented): The vacuum cleaner of Claim 57, wherein said processing unit carries out beatwise a comparison of said measurement signal with a desired value, said processing unit delivering an output signal when said measurement signal undershoots or exceeds said desired value.

59. (Previously presented): The vacuum cleaner of Claim 58, wherein said output signal results in one or more of the following:

one of an optical and an acoustic alarm is given;
said turbine is switched off;
said filter element is changed; and
a second turbine and filter are activated.

60. (Previously presented): The vacuum cleaner of Claim 52, wherein said measurement signal is shown on a display, said displayed measurement signal corresponding to one or more of the following:

a direct measurement signal;
a correlating particle number;
a proportional filter blocking; and
a degree of filter damage.

61. (Previously presented): The vacuum cleaner of Claim 52, further comprising a storage unit, said storage unit receiving and storing said measurement signal.

62. (Previously presented): The vacuum cleaner of Claim 57, wherein said processing unit is interfaced with one of an external data processing installation and a computer.